those taking an interest in the trial, did not succeed in having the facts brought before the notice of the jury. When we find the Supreme Court of the State of California recording an opinion that a man may be morally insane but not legally insane, we are not astonished in the least that those trying such cases, lawyers and judges included; do not know and do not realize and do not appreciate these conditions of the abnormal man. If I have time I should like to refer to a case, that of a young man who was an inmate of Napa. Dr. Robertson knew him well. He suffered with paranoia and he will always suffer from paranoia. He improved to such an extent that the request was made that he might leave the institution with a nurse. He left and he ran away from the nurse. He then took up the life of an author and wrote very creditably.

At the trial I was asked what procedure I thought best to pursue in order to ascertain the facts of the case. I and other practitioners examined the young man and we all said, at the conclusion of the examination, that so far as he had evidenced, there was no indication of insanity. Yet he had delusions that his sisters were trying to poison him. He acknowledged to having had these delusions formerly but not at this time.

Dr. R. F. Rooney, Auburn: Because of limited time, I omitted large parts of this paper. I can not trace, in the meager details which I have received, any trouble, mental or degenerative, in the family on either side. But I am satisfied that if we could go back far enough, we could find the trouble. Calling this imbecility is begging the question. The victims of paranoia are those who have a mental twist. This young man was perfectly normal up to the sixteenth year, he was bright in school and his moral nature was perfect. He loved his little imbecile brother and spent hours in his company. It was after he began to deteriorate that he began to abuse the child. He did rapidly deteriorate, and it is a case of paranoia, I am absolutely certain.

THE EARLY SYMPTOMS OF DEMENTIA PRECOX.*

By CHARLES LEWIS ALLEN, M. D., Los Angeles.

While specialism in medicine is necessary and makes for progress, with the general practitioner must remain the bulk of responsibility for the recognition and treatment of disease. As it is under his observation that departures from health in the majority of instances first come, he must be acute to grasp and able to interpret clinical symptoms, since upon his ability to do so the ultimate outcome will largely depend. By no means the least important of symptoms are those of disturbed mentality, and being familiar with the normal mental reactions of his patients, the family physician occupies a position of advantage in deciding whether certain manifestations are abnormal or not. It is hence urged that a malady which leads to the intellectual desolation of many promising youths and maidens, cannot but intimately concern him.

Adolf Meyer in some recent communications has strongly urged the necessity for more careful study of the psychology of dementia precox, to the end that its roots may be traced back as far as possible into early life, into which they probably extend, with a view to correcting such morbid habits, mental and physical, as may there be found, in the hope that by so doing the otherwise inevitable mental deterioration may be avoided and the threatened victim may be rescued to sane and useful existence. The name itself is open to the objection that it predicates a necessarily unfavorable outcome and it has been opposed upon this ground since even Kraepelin himself admits that a proportion of the patients recover. Few, however, will dispute the service rendered by this author in grouping together under the name dementia precox a number of conditions having common features of onset and outcome. As Meyer puts it, however, regarding this disease only from the standpoint of its frequent outcome, is much like failure to distinguish between tuberculous infection and its advanced stage, consumption, the prognosis in either case being correspondingly unfavorable; and just as the outlook in tuberculosis is hopeful in proportion to how early it is discovered, so if we wish to improve the prognosis in dementia precox our endeavor must be to detect it early in the premonitory stage if possible. Jelliffe has also made some pregnant suggestions in his paper on Predementia Precox.

As in most forms of insanity, heredity plays a considerable role, a family history of insanity or neuroses having been found by Kraepelin in seventy per cent of his precocious dements. It appears as if the form of the disease itself is transmissible, though, of course, few prococious dements marry and produce offspring. Acute infectious diseases and stress of various sorts are often antecedent, but not more frequently than in other psychoses. Its course and the chronic degenerative changes found in the brain cortex in advanced cases favor the idea of a chronic intoxication of some sort, but as to the toxic agent we are entirely in the dark, though some perversion of the internal secretions, especially those of the sexual glands, has been suggested.

Kraepelin has enlarged the boundaries of his group from time to time and now takes in a number of different conditions, having in common, more or less gradual onset during the second and third decennia of life, tendency to dementia and characteristic dulling of the emotional sphere. The memory may be good, orientation little disturbed, and the ability to grasp impressions may be preserved, but the patient is unable to fix his attention for any length of time, is easily distracted, there is inability to co-operate impressions or to think and act in a normal way, and judgment is seriously impaired. Traces of negativism—by which is meant lack of co-operation and resistance to all measures, with apparent perverseness of speech and manner—and a certain stereotypy of movements are seldom absent. False sense perceptions are nearly always present, especially in cases of acute or subacute onset, affecting in order of frequency the spheres of hearing, sight and common sensation. Delusions are nearly always constructed, a fairly well co-ordinated delusional system differentiating a special clinical division. A characteristic of the disease is a lack of co-ordination between concepts and contra-concepts, and a tendency to intrusion

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of the subconscious into the conscious sphere. The play of thought and action is much disturbed and the patient often has the feeling that something strange and foreign is suddenly thrust with irresistable might into his consciousness, hence is led to accuse outside influences of causing him to speak and act in the sudden, inappropriate and bizarre manner which marks this psychosis.

An explanation of the mannerisms in speech, tendency to form new words, constant reiteration of a word, a phrase or senseless syllables (verbigeration), incoherence, stereotypy of movements and negativism is based upon these psychological grounds, and as an anatomical basis, interference with the association tracts may be suspected. The patient often appears to be suffering from an inhibition of will and an inability to co-ordinate impressions or to express or suppress impulses. Hence at times excitement, again stupor with obstinate resistance. He also shows increased susceptibility to suggestive influences and imitativeness. Stransky has pointed out that a characteristic feature is the loss of the normal co-ordination between the intellectual and emotional spheres (his noopsyche and thymopsyche). This blunting of the emotional sphere is one of the earliest symptoms and explains the loss of feelings of sympathy, politeness and self-respect, causing indifference to conventionalities and inability upon the part of the patient to adapt himself to his surroundings.

There may be diminution of common sensibility, vaso-motor disturbances, and occasionally epileptiform attacks. Some changes in the eye grounds and in the pupillary reactions have been reported, notably by Clark and Tyson in this country, but their diagnostic value has yet been hardly established.

Of the three divisions made by Kraepelin, hebephrenia, the psychosis par excellence of adolescence, shows especially the intellectual defect, katatonia is marked by negativism, stereotypy, stuporous and excited states, dementia paranoides presents preponderance of delusional ideas, notably those of persecution and of grandeur, and tendency to their development into a system. The disease is generally ushered in by a period of depression, complaints of headache, disturbance of sleep and change of disposition upon the part of the patient. Dullness or restlessness may be present, depending upon the form which the disease is taking. Mixed forms are by far the most frequent. Since adolescence is a period of change and formation of new adjustments, many brains being improperly constituted through hereditary or acquired causes, are unable to stand the stress of rearrangement and give way.

Stanley Hall says: "There are two missing links indispensable to a full acquaintance with the many forms of precocious mental decay; first and chiefly, knowledge of the actual changes during the stage of puberty and later adolescence, which go on within the limits of sanity. This age has often been characterized as that of mental and moral inebriation and of psychic madness, and from any studies of its phenomena I am convinced that nearly all its symptoms can be paralleled in the inner and outer life of youth who do not lapse toward the terminal imbecility, but develop to sane and efficient maturity. * * * The other gap is the absence of record or available knowledge of the early stages in the development of the disease before cases come to asylums."

Many persons, he thinks, pass through mild attacks and are slightly impaired, without ever coming under medical observation. Let us compare with Hall some of the special psychic traits of puberty and the symptoms of dementia precox.

1. Tendency to inner absorption, revery, and unrestrained phantasy, "the birthday of the imagination" with illusions and the development of a delusional system.

2. Development of consciousness of self, intense introspection and self-criticism, with anxiety, morbid doubts and fears, imperative conceptions.

3. Overassertion of individuality and exaggeration of the ego, with delusions of grandeur and of altered personality.

4. Faculty of imitation at its height, tendency to mimic the mannerisms of gait, style of dress, etc., of others, with increased susceptibility to suggestion, echolalia, echopraxia ("Befehlsautomatie").

5. Tendency to assume theatrical roles and postures, with stereotypy.

6. Exaggerated self-consciousness and fear of ridicule leading often to senseless sayings and doings, with the impulsive and silly acts of the precocious dement.

7. Vocabulary enlarging and meanings of words being readjusted with the tendency to form new words and senseless combinations of words or syllables. (The "word salad" of Forel.)

8. Shyness and bashfulness, development of new feelings of sex and religious ideas, with sexual and religious delusions.

9. Changes taking place in the vascular and digestive apparatus may give rise to new and strange feelings, vaso-motor and digestive disturbance, insomnia, or somnolence, gluttony or refusal of food.

The methods of psychical analysis, especially by study of the associations, as begun by Freud and amplified by Jung and the Zurich School have shown the similarity between many of the symptoms of dementia precox and those of hysteria. Freud is of the opinion that this latter has always as its basis a disagreeable experience of some sort, in most cases of sexual character, and that the habitual effort to suppress the souvenirs of this experience causes increase in strength of the normally present contra-concepts, or as they are called by Jung "negative associations," which may gain so much the upper hand that normal mental action is impossible. On this basis Jung explains also, the narrowing of consciousness, negativism and other symptoms of dementia precox. The morbid associations detected, their removal if possible by the "mental catharsis" of Freud, or the "sidetracking" of Dubois has been urged as a helpful method of

treatment in functional conditions, and Jung suggests that it might be possible in the earliest stages of dementia precox to so modify faulty associations and mental habits as to favorably influence the course of the disease, since even granting its toxic origin may not autointoxication be at least partly due to the effect upon the secretions of disordered nerve processes?

The symptoms of dementia precox are fairly characteristic, and should be sought for in any young person who shows unaccountable change in habits and disposition. In this connection the scientific study of the mental and physical characteristics of the pupils in our schools and colleges should put at our disposal valuable information and this work should command the support of all physicians.

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Discussion.

Dr. Moore, Los Angeles: As the doctor has said, the essence of this question is time. Dementia praecox is dementia and dementia is a disturbance of the mental sphere. If that is so and if the mentality depends upon the visible condition of the cells of the brain, then when the cells of the brain have begun to degenerate there is no hope for them. We may be able to stop the degeneration, but can not put back the cells when they are dead. Therefore I say that the essence of this thing is time, and as Dr. Allen has said, it is Dr. Allen who sees the cases first. The essence of the diagnosis of dementia praecox is peculiarity. A child who is peculiar is a child who ought to be watched and who is the one who will develop dementia praecox, and when it is developed that is the end. Peculiarity may arise in almost any sphere. A case was under my observation two months ago which has gone on and is now in an almost complete state of dementia, in which the only symptom (the boy has been a perfectly normal boy of strong mentality) had been all through his life a condition for which I can not find words, except to say that it was involuntary liziness. The father had tried to make him do certain things and he could not do them—he wanted to do them but he could not. There were no other symptoms until he began going into the negativism and a very rapidly increasing dementia. It was involuntary laziness. If it could have been rectified early, if he could have been put on a ranch and have been made a rancher, his mind might have been saved. But the nature of his peculiarity was not recognized. The essence of the thing is time, and the time is in the hands of the general practitioner, because when the specialist gets the case he has a case before him in which he is as much interested as the surgeon is when he gets a technically perfect operative case, —but the patient dies.

Dr. Allen, Los Angeles: In the hands of the general practitioner remains the recognition of the early stage of this disease. If he recognizes a peculiarity in a child he should suggest such changes in the methods of training that child as will prevent the development of this patient to that stage which makes him a care to the community.

FUNGUS COCCIDIOIDES.*

By H. A. L. RYFKOGEL, M. D., San Francisco.

The first case of coccidiodes on record occurred in Buenos Aires in 1892. With the exception of this case, all others have lived in California and of them 50 per cent have been domiciled at one time or another in the San Joaquin valley.

The next two cases were reported by Dr. Emmett Rixford of San Francisco. He and Dr. Gilchrist, who studied the cases with him, did not succeed in cultivating the organism and concluded that, on account of its peculiar structure and growth in the body, that it was not a fungus, but belonged to the animal kingdom group of protozoa, and gave it the name coccidioides imitis. Dr. Montgomery of San Francisco saw the next reported case. He evidently obtained a growth of the organism, but thought it a contaminating mold and destroyed it.

The fifth case occurred in the service of Dr. Herbert Moffitt at the San Francisco City and County Hospital. At autopsy the distribution of the abscesses necrotic areas and granulomatous abscess suggested glanders, and slides and cultures were made and guinea pigs inoculated.

In the pus the bodies previously described by Rixford were seen. In the culture a mold appeared which was believed to be at first a contaminating fungus; the pigs were later killed and autopsied and when the same fungus appeared it was realized that it was an extra corporeal cycle in the growth of the bodies seen in the pus.

Dr. Ophuls observed the direct transformation under the microscope and the proof that the bodies were stages in the life history of a fungus and not protozoa was complete.

Coccidioidal disease must be classed among the infectious granulomata. You will remember that in all the granulomatous diseases, anthrax, glanders, tuberculosis, syphillis, rhinoschleroma and coccidiodal diseases, the local lesions are the most marked feature; in contradistinction to the products of acute inflammation, the new growth seen in these diseases is relatively permanent and the organisms causing them are able to live for a much longer period in the body without being destroyed by the protective forces.

In their chronicity they form an ascending series with anthrax, a very acute disease, and leprosy, a very chronic one; the local lesions all consist of an infiltration of the tissues of new growth resembling granulation tissue, but differing from it in relative permanence. In this structure endothelial giant cells and lymphocytes are more abundant than in ordinary granulation tissue. The poisons of the tubercular bacillus, fungus coccidioides, etc., seem to have the power of exciting a proliferation of the connective tissue cells and later causing them to necrose; the necrotic tissue then attracts the leukocytes and the typical tubercle is produced. The tubercle bacilli do not possess the power of attracting leukocytes as do the staphylococcus and streptococcus pyogenes; they only do so indirectly.

* Read before the San Joaquin Valley Medical Society.